

5.1 INTRODUCTION

This chapter evaluates the potential use of Section 4(f) properties from project alternatives. Section 4(f) requirements are set forth in 49 U.S.C. 303 and 23 CFR 771.135. Many of the impacts summarized in this chapter have been more fully described in Chapter 4–Environmental Consequences.

For the proposed Riverdale Road project, a review of potential Section 4(f) properties was conducted. Based on the analysis, the only potential 4(f) properties in the project area were related to cultural resources and the recreation facility Golden Spike Park. No wildlife or waterfowl refuges are within the project area. The FHWA Section 4(f) regulation (23 CFR 771.135) states that:

*The [FHWA] may not approve the use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that there is no feasible and prudent alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use.*

5.2 PROPOSED ACTION

The proposed action involves the reconstruction of SR-26 (Riverdale Road) in Weber County, Utah, from SR-126 (1900 West) in Roy to US-89 (Washington Boulevard) in Ogden (Figure 5.1). The purpose of the project is to improve transportation mobility, roadway safety, and roadway deficiencies. A complete discussion of the purpose and need for the project is in Chapter 1–Purpose and Need for the Action.

A No-Action Alternative and Lane Addition Alternatives A through E have been developed as described in Chapter 2–Alternatives. The No-Action Alternative consists of leaving Riverdale Road as is with the exception of future routine maintenance activities.

The Lane Addition Alternatives (A through E) would consist of constructing additional travel lanes along portions of Riverdale Road and dedicated right-turn and left-turn lanes at selected intersections. The pavement would be rehabilitated and signals would continue to be coordinated and updated to current UDOT standards and to accommodate the new travel lanes and dedicated turn lanes. Additional bus routes would be implemented along Riverdale Road as part of UTA’s regional bus service plan. The interchange

at I-84, including the ramps and bridge, would be reconfigured. The I-15/ Riverdale Road interchange bridge would be reconstructed.

5.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

The following alternatives were considered and evaluated, but it was determined that they do not satisfy the project’s purpose and need. A detailed evaluation of alternatives is in Chapter 2–Alternatives. Because these alternatives do not meet the project purpose and need, they are not considered feasible or prudent.

5.3.1 Transportation System Management/ Transportation Demand Management Alternative

As part of this alternative, the pavement would be rehabilitated, the I-15 and I-84 bridges would be replaced with new structures, left turns from or to Riverdale Road would be prohibited except at signalized intersections by the construction of raised median, and dedicated right-turn and dual left-turn lanes would be constructed at signals as warranted by traffic demand. Signals would continue to be coordinated and would be updated to current UDOT standards as well as to accommodate the dedicated turn lanes. Bus routes would be implemented as part of UTA’s regional bus service. Signals at the entrance to ShopKo and 900 West would be eliminated. An evaluation of this alternative determined that it would not meet the LOS D requirement in the project purpose and, therefore, was eliminated from detailed study.

5.3.2 Mass Transit Alternatives

These alternatives would consist of constructing a light rail system (Light Rail Alternative) or implementing expanded bus service (Increased Bus Service Alternative). Light rail would be constructed down the center or the side of Riverdale Road. The rail line would be constructed to connect to the future Layton commuter rail station and to Weber State University. Bus service would connect the rail line with the Intermodal Center at Wall Avenue and 23<sup>rd</sup> Street. Instead of light rail system, additional bus routes would be implemented along Riverdale Road as part of the UTA regional bus service plan. An evaluation of this alternative determined that it would not meet the LOS D requirement in the project purpose and, therefore, was eliminated from detailed study.

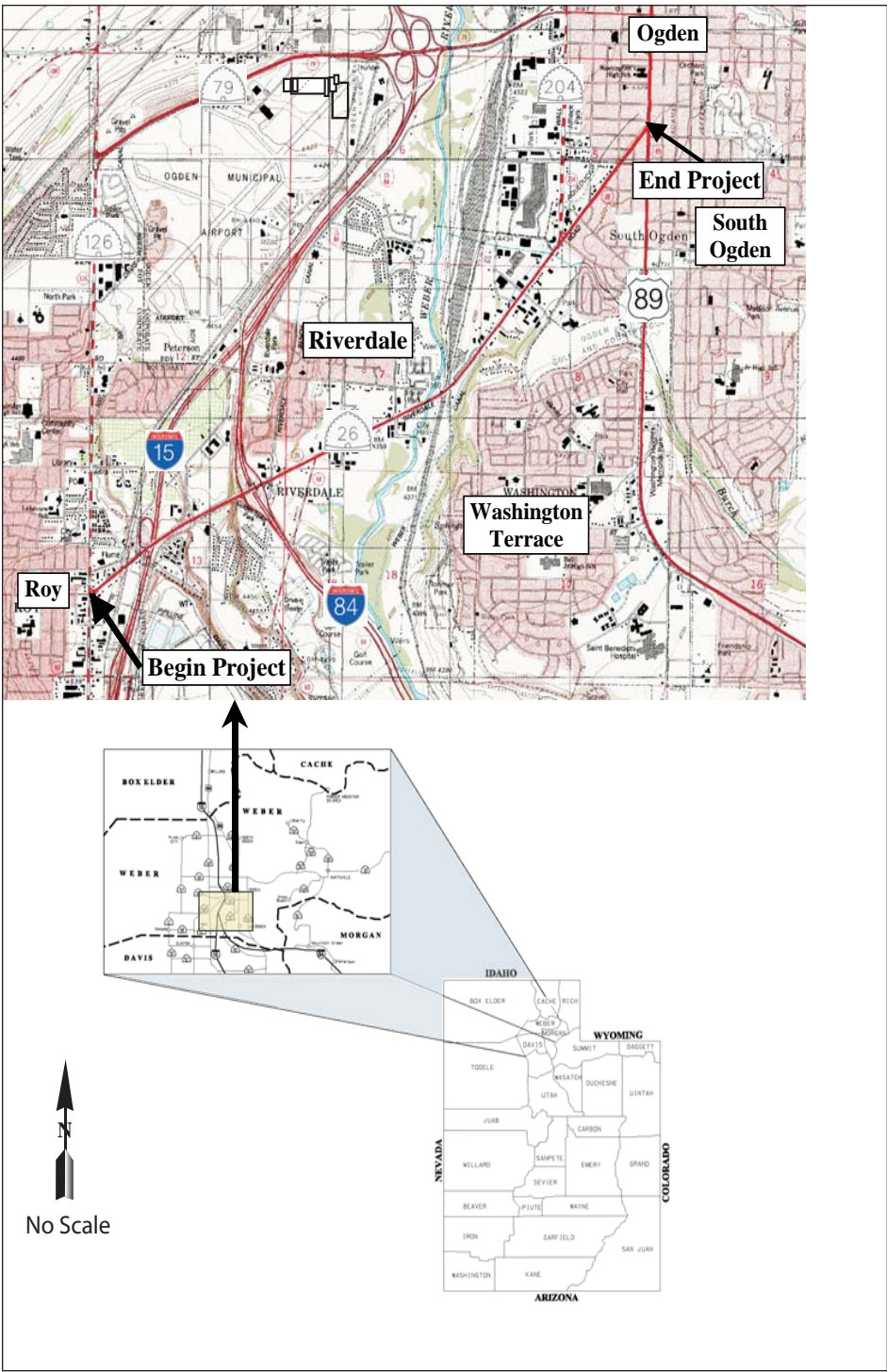


Figure 5.1–Project Study Area.



### 5.3.3 Riverdale Road Expressway Alternative

This alternative would consist of constructing a two-lane expressway (one lane in each direction) along Riverdale Road as shown in Figure 2.5 in Chapter 2. The Expressway Alternative would consist of building express lanes below or above the existing Riverdale Road. The express lanes would have to meet the existing roadway grade at I-84 interchange or access ramps would have to be provided to maximize the usefulness of the expressway. In addition, the expressway would have to tie into the existing bridge over the Weber River to avoid reconstructing the bridge. As described in Chapter 2, this alternative was eliminated from detailed study because the below-grade Expressway Alternative would require additional ROW which would impact more 4(f) resources than any of the Lane Addition Alternatives and an elevated expressway option would increase safety risk, cost, and noise and would create a visual barrier that would not be consistent with community plans.

## 5.4 SECTION 4(f) RECREATIONAL PROPERTIES

Golden Spike Park is the only recreation facility in the project area and is considered a 4(f) property.

### 5.4.1 Golden Spike Park Property Description

Golden Spike Park, on the southwest quadrant of the I-84/Riverdale Road interchange (4900 South 1150 West), consists of 8 acres (Figures 5.2 and 5.3). Included in the park are two baseball fields, restroom facilities, one pavilion, and a walking trail. The park is owned and operated by Riverdale City. The park was built in 1971 and was recently renovated using city funds. Riverdale City does not have any plans for future expansion of the park.

### 5.4.2 Golden Spike Park 4(f) Use

Use of Golden Spike Park would be the same for all of the Lane Addition Alternatives. Initial roadway design resulted in a 4(f) use of Golden Spike Park. However, to minimize impacts, a retaining wall was incorporated into the project design that would be contained within the existing ROW of Riverdale Road which would avoid any use of the park property. Figures 5.4 and 5.5 show how the proposed project design avoids use of park property.

Project noise levels for the park area would increase by 2 dBA over existing conditions of 58 dBA to a noise level of 60 dBA. The Lane Addition Alternatives noise level is below UDOT's noise abatement criterion of 65 dBA for this type of property and below FHWA's exterior noise criterion of 70 dBA for recreation facilities. In addition, this recreation facility is used for outdoor activities such as baseball, and therefore is not considered a noise-sensitive facility where quiet and serenity are significant factors for park use. The 2-dBA increase in noise would not be enough to substantially impair the park activities and therefore no constructive use would occur.



Figure 5.2–Golden Spike Park.



Figure 5.3–Golden Spike Park Location.

### 5.4.3 Avoidance Alternatives

No avoidance alternatives are required.

### 5.4.4 Minimization Measures

The design of the retaining wall would be aesthetically pleasing and developed to help the wall blend into the natural surroundings. A temporary construction easement would be required to construct the wall. This easement would be short in duration and would not create an adverse physical impact. The property would be fully restored to its pre-existing condition and therefore no impact would occur.

## 5.5 SECTION 4(f) HISTORIC PROPERTIES

The following sections discuss the 4(f) historic properties in the project area and measures developed and evaluated that avoid or minimize harm to the 4(f) properties along with necessary mitigation measures.

### 5.5.1 Definition of Section 106 Impacts

Impacts to historic properties from the build alternatives were documented using the Section 106 guidelines in 36 CFR 800.5. An accounting of the alternatives' degrees of projected effects on historic properties under Section 106 is useful for comparing the relative impacts to these properties and sites for Section 4(f) purposes. These impacts are described as No Effect, No Adverse Effect, or Adverse Effect. These degrees of effects can be considered under 4(f) when determining the appropriateness of avoidance alternatives. The types of impacts from the build alternatives were documented by FHWA and UDOT in the Determination of Eligibility and Finding of Effect (see Appendix A–Determination of Eligibility and Finding of Effect). The definitions of these impacts are as follows:

- **No Effect.** A No Effect determination is made when the alternative has no impact (direct or indirect) on the character, use, or historic qualities of an architectural property/archaeological site that is eligible for the National Register of Historic Places (NRHP).
- **No Adverse Effect.** A No Adverse Effect determination is made when the alternative impacts the minor aspects of the character, use, or historic qualities of an architectural property/archaeological site, but the property/site retains its essential characteristics that make it eligible for the NRHP.
- **Adverse Effect.** An Adverse Effect occurs when the alternative adversely impacts the essential character, use, or qualities of an architectural property/archaeological site that make it eligible for the NRHP.



5.5.2 Property Boundaries

For the historic property evaluation, the historic boundaries of each property were assessed. Based on the assessment, it was determined that the historic property boundaries coincided with the legal parcel boundary for the property on which the historic building is located.

5.5.3 Section 106 Process

On January 29, 2003, a file search for cultural resources located within 1 mile of the project area was performed at the SHPO in Salt Lake City. In March 2003, a pedestrian (walking) archaeological survey and a standing structure reconnaissance-level inventory were conducted. Based on these surveys, a total of 78 historic properties were recorded, of which 29 were in the project area of potential effect. Of these 29 historic properties, 22 are potentially eligible for the National Register of Historic Places. During the project, three eligible historic properties were demolished, reducing the total number of properties to 19. The eligible historic properties, their Section 106 finding, and their 4(f) use are shown in Figure 5.6 and Table 5.1.

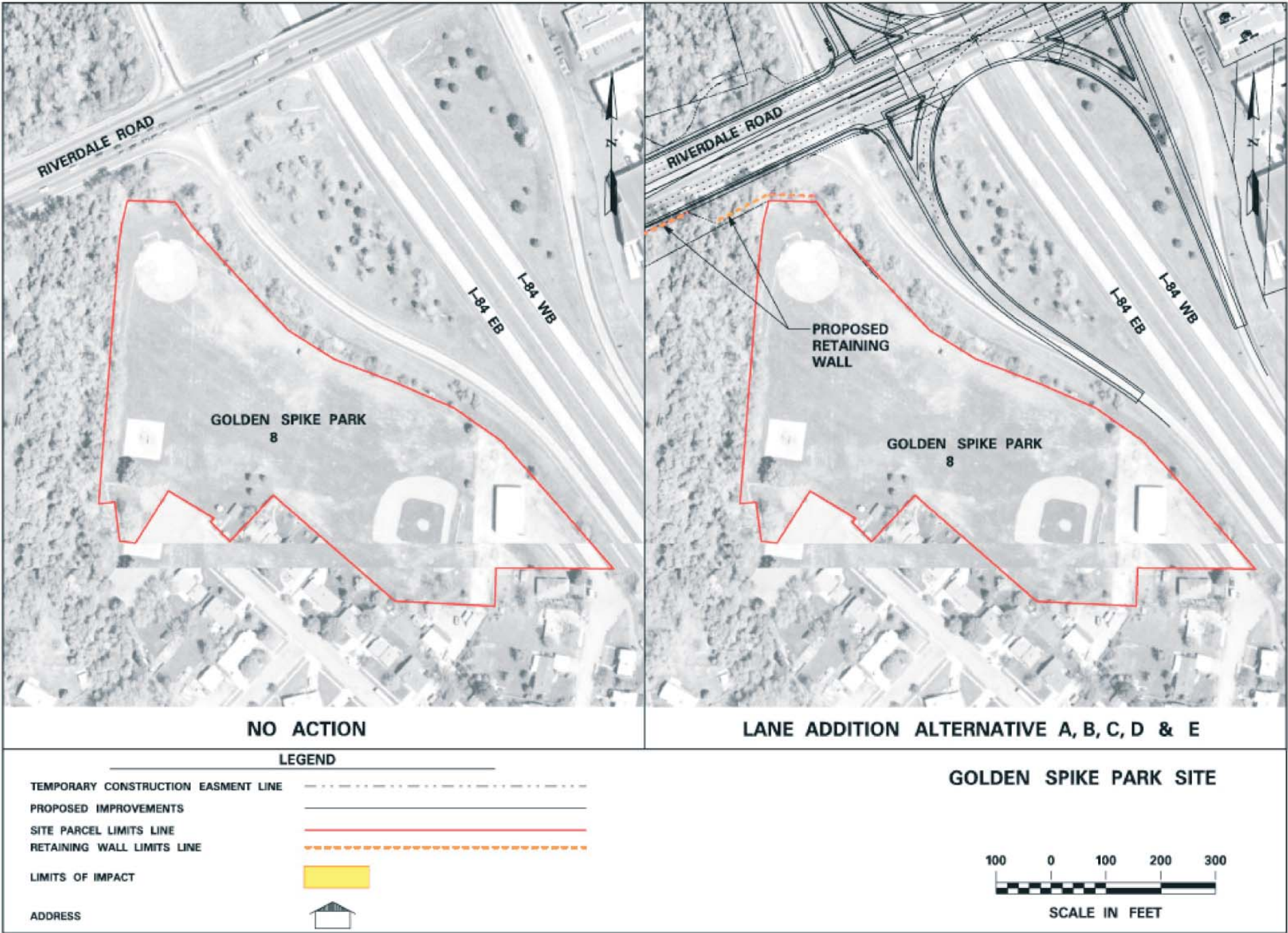


Figure 5.4–No-Action and Lane Addition Alternatives A, B, C, D, and E.

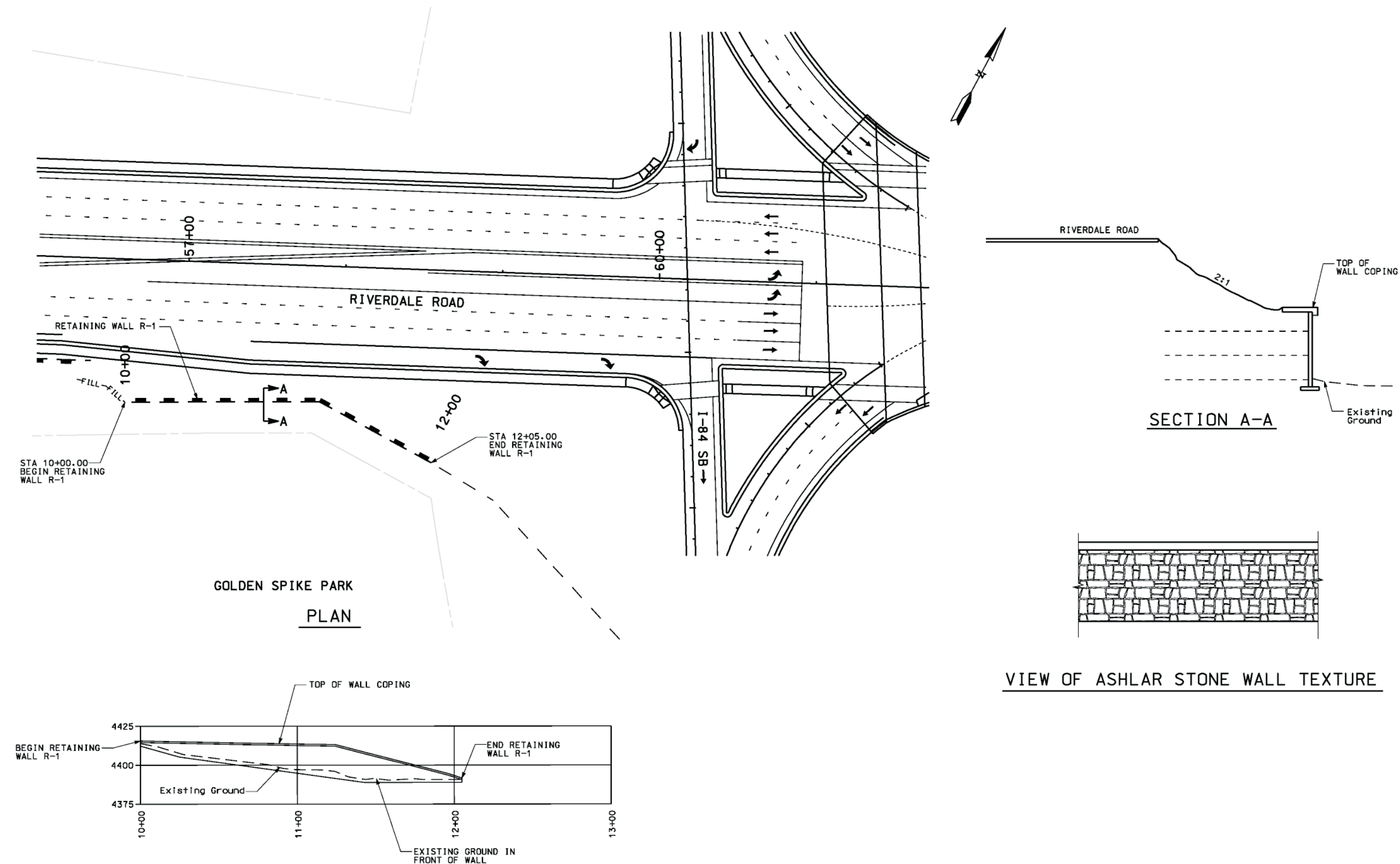


Figure 5.5–Wall Layout for Golden Spike Park Site.



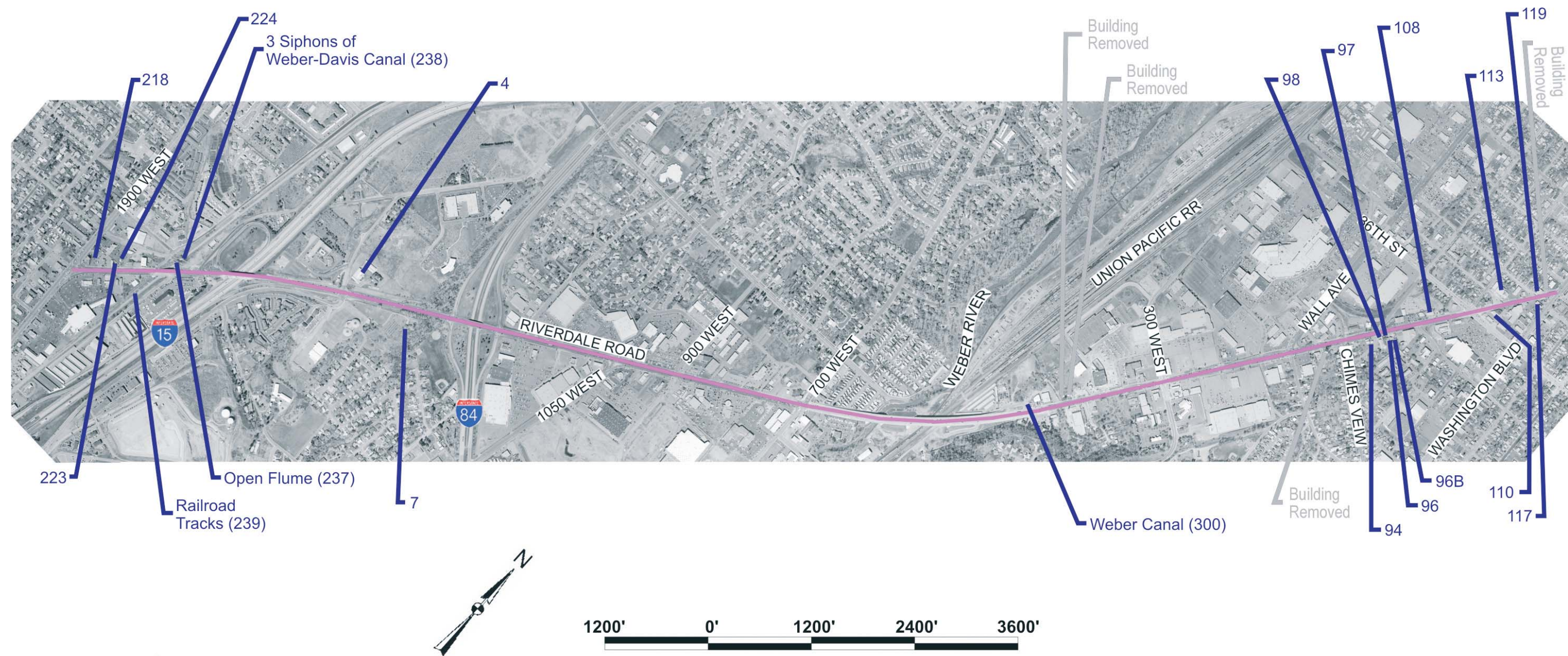


Figure 5.6–Entire Site Showing NRHP-Eligible Historic Properties.

Table 5.1–Summary of Section 4(f) Property Impacts – Adverse Effects.

Property Number	Address	Construction Date	Property Description	Effect Determination (under Section 106) by Alternative					Section 4(f) Use by Build Alternative				
				A	B	C	D	E	A	B	C	D	E
4	1450 W. Riverdale Road	c. 1955	Ranch/Rambler	NE	NE	NE	NE	NE	No	No	No	No	No
7	1403 W. Riverdale Road	c. 1953	Minimal Traditional World War II–Era Cottage	NE	NE	NE	NE	NE	No	No	No	No	No
94	3802 Riverdale Road	c. 1928	Victorian Eclectic Service Bay	NAE	NAE	NAE	NAE	NAE	Yes	Yes	Yes	Yes	Yes
96	3760 Riverdale Road	c. 1924	Bungalow	NE	NE	NE	NE	NE	No	No	No	No	No
96B	3750 Riverdale Road	c. 1936	English Tudor	NE	NE	NE	NE	NE	No	No	No	No	No
97	3748 Riverdale Road	c. 1937	English Tudor	NE	NE	NE	NE	NE	No	No	No	No	No
98	3730 Riverdale Road	c. 1939	English Tudor	NE	NE	NE	NE	NE	No	No	No	No	No
108	3555 Riverdale Road	c. 1930	Modern (Other)/Service Bay	AE	AE	AE	AE	NE	Yes	Yes	Yes	Yes	No
110	3564/3560 Riverdale Road	c. 1920	Modern (Other) Commercial	NE	NE	NE	NE	NE	No	No	No	No	No
113	3531 Riverdale Road	c. 1930	Modern (Other) Commercial	NE	NE	NE	NE	NE	No	No	No	No	No
117	3505 Riverdale Road	c. 1910	Early 20 <sup>th</sup> -Century Arts and Crafts	NE	NE	NE	NE	NE	No	No	No	No	No
119	3417 Riverdale Road	c. 1920	Prairie School	NE	NE	NE	NE	NE	No	No	No	No	No
218	1900 W. Riverdale Road	c. 1950	Modern (Other)	NE	NE	NE	NE	NE	No	No	No	No	No
223	1840 W. Riverdale Road	c. 1945	Late 20 <sup>th</sup> -Century Other	NE	NE	NE	NE	NE	No	No	No	No	No
224	5291 South 1825 West	c. 1945	Minimal Traditional	NE	NE	NE	NE	NE	No	No	No	No	No
237	1725 West 5225 South	c. 1900?	Open-Trough Flume under the Railroad Tracks	NE	NE	NE	NE	NE	No	No	No	No	No
238	1727 West 5225 South	c. 1930?	Three Siphons of Weber-Davis Canal	NE	NE	NE	NE	NE	No	No	No	No	No
239	42Wb350	c. 1908	Bamberger Electric Railroad	NE	NE	NE	NE	NE	No	No	No	No	No
300	42Wb343	c. 1852–1854	Weber Canal	AE	NE	NE	NE	NE	Yes	No	No	No	No

NE = No Effect  
NAE = No Adverse Effect  
AE = Adverse Effect  
c. = circa (approximately)



As shown in Table 5.2, only properties 94, 108, and 300 have a direct 4(f) use. There are no constructive uses to any 4(f) property as a result of the Lane Addition Alternatives.

Table 5.2–Summary of 4(f) Use to Historic Properties.

Property Number	Lane Addition Alternative 4(f) Use				
	A	B	C	D	E
94	Yes	Yes	Yes	Yes	Yes
108	Yes	Yes	Yes	Yes	No
300	Yes	No	No	No	No
Total 4(f) Use	3	2	2	2	1

5.5.4 Avoidance Alternatives for Individual 4(f) Historic Properties

Lane Addition Alternative E was developed to minimize 4(f) use to historic properties. For this alternative, the cross-section was minimized and the alignment shifted with the goal of avoiding 4(f) use.

In addition to the development of Lane Addition Alternative E, the following measures were evaluated for all Lane Addition Alternatives to avoid or minimize 4(f) uses of historic properties:

- 1. Narrow the width of shoulders
- 2. Steepen roadway side slopes
- 3. Construct retaining walls

The standard shoulder width used for this project in order to meet safety requirements was 10 feet. To minimize impacts, the shoulder was reduced to a minimum width of 4 feet at 4(f) properties that would be impacted. Reducing the shoulders below 4 feet creates a safety concern because it does not provide enough room for vehicles to pull out of traffic and therefore was not considered feasible or prudent.

To minimize property impacts, the steepest practicable side slope was used in the development of the alternatives. Therefore, a steeper side slope was not considered feasible or prudent.

Property access, visibility, and safety limited the use of retaining walls in many areas. A short retaining wall next to a sidewalk creates a safety hazard unless a railing is provided. Retaining walls also restrict the access to the properties. Where practicable, retaining walls were used as avoidance measures. Otherwise, retaining walls were not considered feasible or prudent where they created a public safety hazard or limited property access.

5.5.5 Individual Historic Property Details

This section provides details of the 4(f) historic properties identified in the area of potential effect. Along with the property description, the 4(f) use, avoidance alternatives, measures to minimize harm, and mitigation measures are discussed for each property.

Chapter 5 - Section 4(f) Evaluation

5.5.5.1 Property 94 – 3802 Riverdale Road, South Ogden

5.5.5.1.1 Property Description

Farmers Insurance currently occupies this stone veneer, English Tudor–style residence originally built in 1928 (see Figure 5.7).



Figure 5.7–Property 94 – 3802 Riverdale Road, South Ogden.

5.5.5.1.2 4(f) Use

Lane Addition Alternatives A through E would require a property take of about 145 square feet (out of a total 0.11 acre) of the front of the property (see Figure 5.8). The impacted piece of the property consists of a grass strip along the back of the sidewalk and is not a contributing element to the historic property; therefore, the SHPO concurred with the Section 106 finding of No Adverse Effect. Based on the finding of No Adverse Effect and the fact that no contributing elements to the historic property would be impacted, FHWA has made a determination of *de minimis* impact finding (that is, the impact would be too minor to require action). An additional 9-foot-by-2-foot temporary easement onto the property would be required to connect the driveway and parking lot to the back of the sidewalk. The temporary easement would be short in duration, would be for minor work on the property, and would not create an adverse physical impact or impact a contributing element of the property. The property would be fully restored to its pre-existing condition.

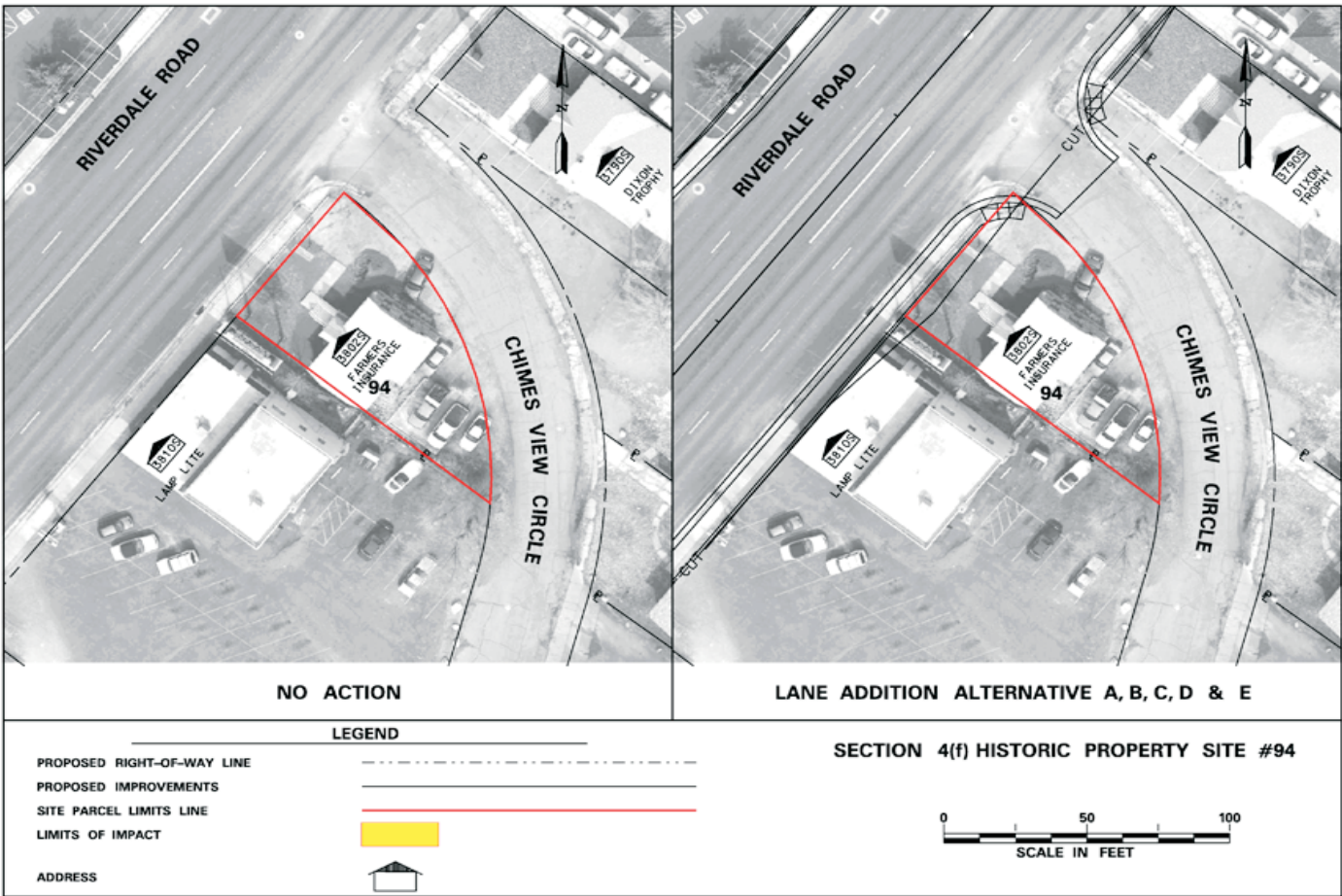


Figure 5.8–Site Plan 94 – No-Action and Lane Addition Alternatives A, B, C, D, and E.

5.5.5.1.3 Avoidance Alternatives

The property take is required to install a pedestrian ramp at the property corner. All of the alternatives that meet the project purpose and need have a 4(f) use of the property. An evaluation of alternatives has determined there are no feasible or prudent alternatives that avoid use to the property without eliminating the pedestrian ramp.

5.5.5.1.4 Minimization Measures

To minimize impacts to this property, the project standard 10-foot-wide shoulders were reduced to 4 feet. Reducing the shoulders below 4 feet would create a safety concern and therefore was not considered feasible or prudent. The fill height was also considered for minimization, but at this location it would be less than 1 foot, which would make a retaining wall not feasible or prudent. The overall take is the minimum area needed to install a pedestrian ramp at the intersection corner.

5.5.5.1.5 Mitigation Measures

No mitigation measures are required.



5.5.5.2 Property 108 – 3555 Riverdale Road, Ogden

5.5.5.2.1 Property Description

Ogden Muffler and Brake Shop currently occupies this brick building. This building was constructed in the 1930s and was originally used as a service station (see Figure 5.9).



Figure 5.9–Property 108 – 3555 Riverdale Road, Ogden.

5.5.5.2.2 4(f) Use

Lane Addition Alternatives A through D would use about 260 square feet (80 feet long by 3.25 feet deep) of this property (out of a total of 0.08 acre) along a portion of the front of the property (Figure 5.10). This would impact the building and require a complete take of the historic property, which would result in an Adverse Effect under Section 106. Lane Addition Alternative E results in no 4(f) use of the property (Figure 5.11).

5.5.5.2.3 Avoidance Alternatives

Lane Addition Alternative E avoids 4(f) use of this property and is considered feasible and prudent (Figure 5.24). There are no other feasible or prudent alternatives to avoid use of the property.

5.5.5.2.4 Minimization Measures

In order to minimize impacts to this property, the project standard 10-foot-wide shoulders were reduced to 4 feet for Alternatives A through E. Reducing the shoulders below 4 feet would create a safety concern and therefore was not considered feasible or prudent. The fill height was also considered for minimization, but at this location it would be less than 1 foot making a retaining wall not feasible or prudent. Even with reducing the shoulders to 4 feet, Alternatives A through D would still result in a 4(f) use of the property.

5.5.5.2.5 Mitigation Measures

No mitigation measures would be required if Lane Addition Alternative E is selected because it avoids use of the property. If Alternatives A through D are selected, an intensive-level site recordation will be completed on this property prior to the building being demolished.



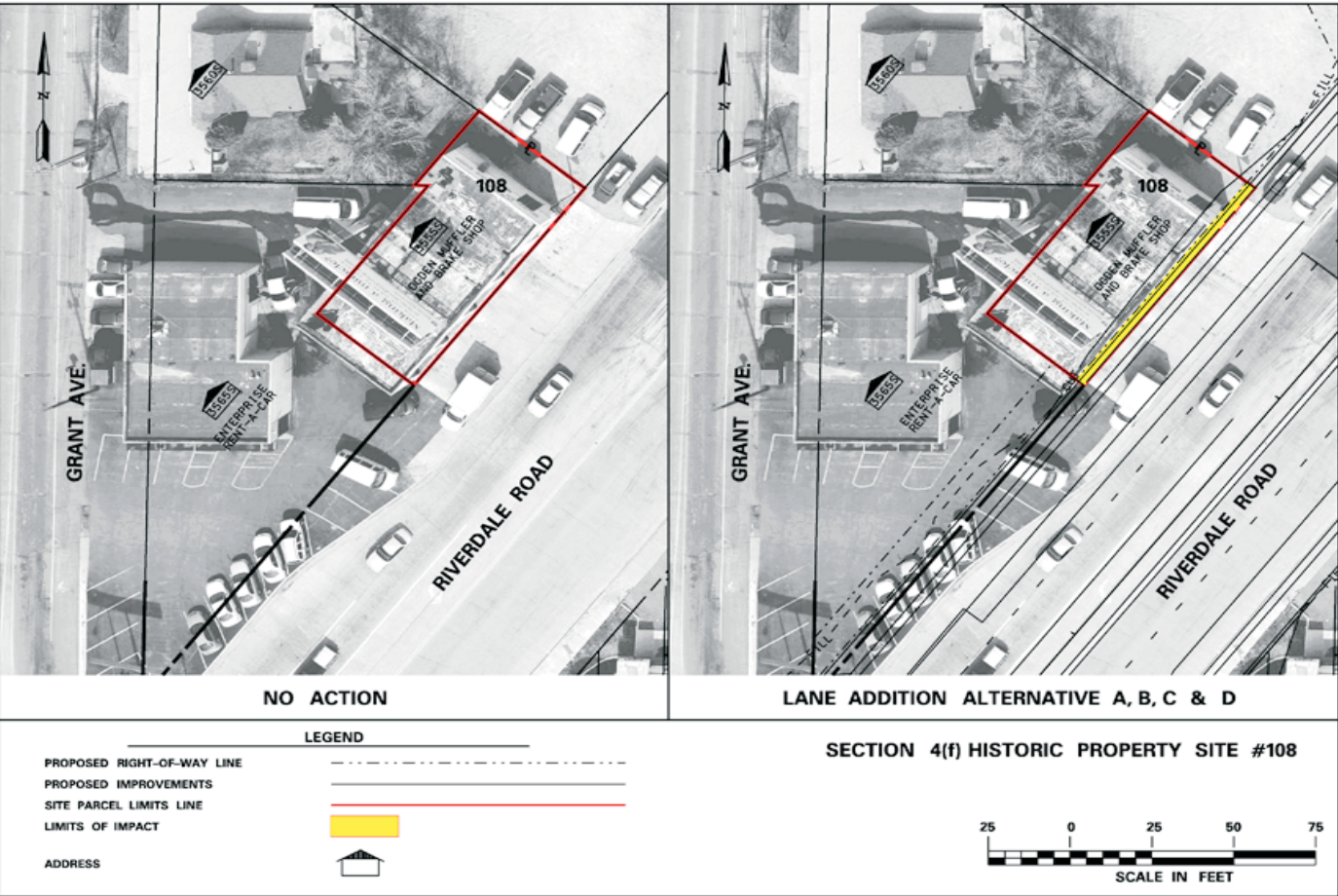


Figure 5.10–Site Plan 108 – No-Action and Lane Addition Alternatives A, B, C, and D.

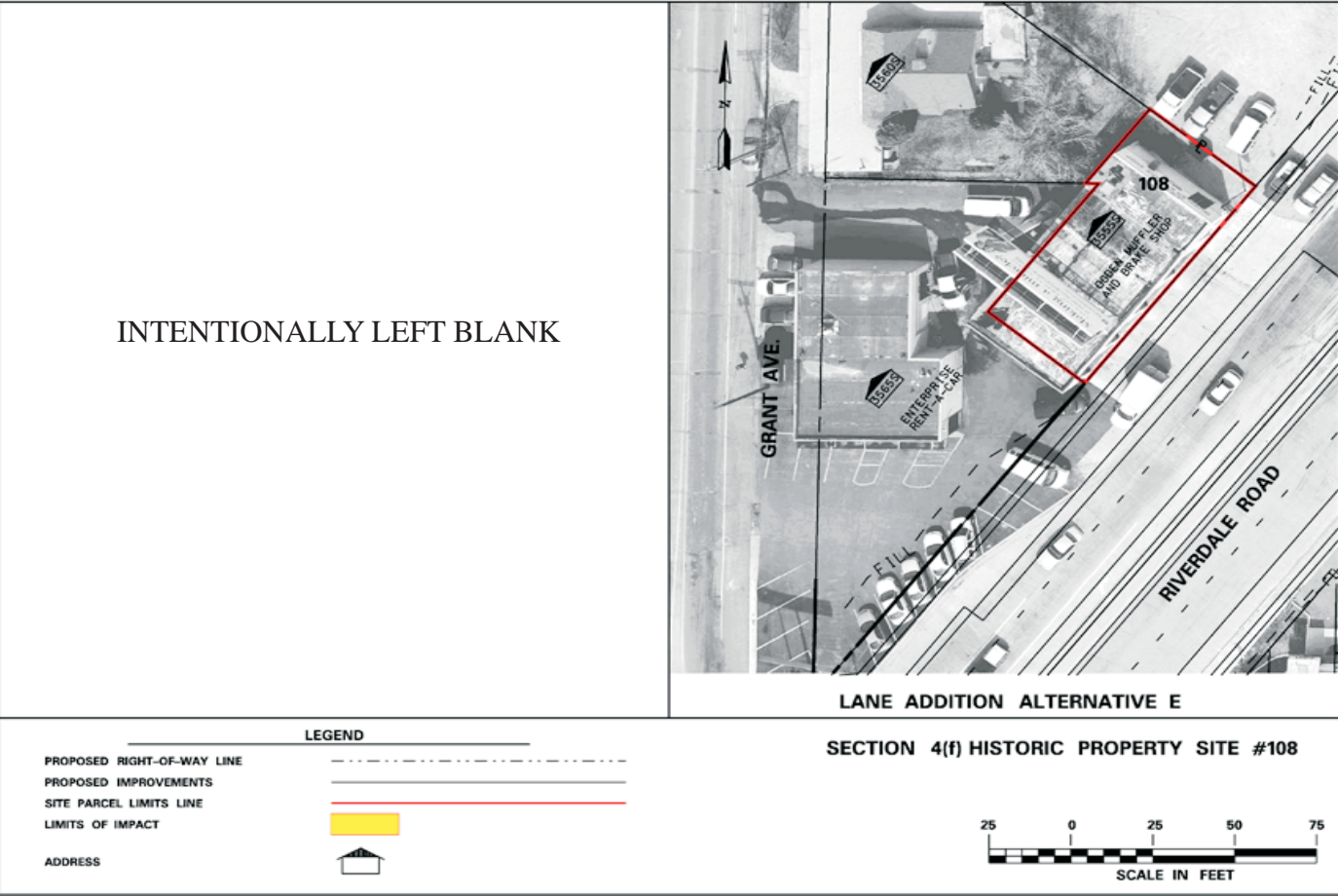


Figure 5.11–Site Plan 108 – Lane Addition Alternative E.



5.5.5.3 Property 300 – Weber Canal, Riverdale

5.5.5.3.1 Property Description

This site consists of a primary irrigation canal fed by the Weber River. The Weber Canal was constructed between 1852 and 1854. At the time of construction, the Weber Canal was 7 miles long, 14 feet wide, and 5 feet deep. Several historic features associated with the Weber Canal were located within the project area and include two adjacent lateral ditches and associated two-track road, a concrete and steel gate at the mouth of the canal on the Weber River, a concrete culvert siphon tank adjacent to the UPRR grade, and a newly recorded feature consisting of a culvert and associated structures located just east of the Riverdale Road bridge (Figure 5.12).



Figure 5.12–Property 300 – Weber Canal, Riverdale.

5.5.5.3.2 4(f) Use

Lane Addition Alternative A would impact the existing channel headwall of this historic property as shown in Figure 5.13. Lane Addition Alternatives B through E would result in no 4(f) use of the property.

5.5.5.3.3 Avoidance Alternatives

Lane Addition Alternatives B through E avoid 4(f) use of this property and are considered feasible and prudent (Figure 5.13). There are no other feasible or prudent alternatives to avoid use of the property.

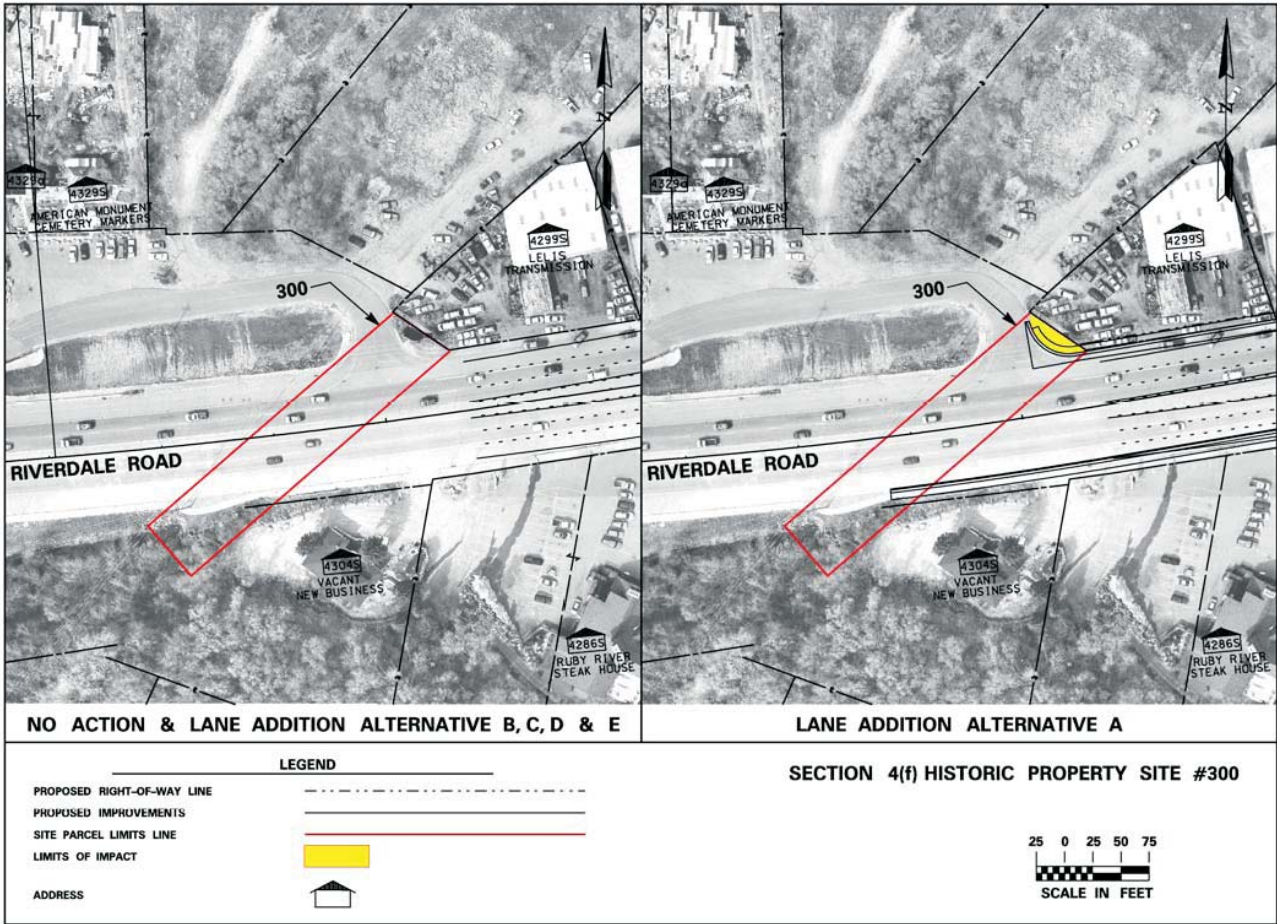


Figure 5.13–Site Plan 300 – No-Action and Lane Addition Alternatives A, B, C, D, and E.

5.5.5.3.4 Minimization Measures

In order to minimize impacts to this property, the project standard 10-foot-wide shoulders were reduced to 4 feet for Alternative A. Reducing the shoulders below 4 feet would create a safety concern and therefore was not considered feasible or prudent. The fill height was also considered for minimization, but at this location it would be less than 1 foot, which would make a retaining wall not feasible or prudent. Even with reducing the shoulders to 4 feet, Alternative A would still result in a 4(f) use of the property.

5.5.5.3.5 Mitigation Measures

No mitigation measures would be required if Lane Addition Alternatives B through E are selected because they avoid use of the property. If Alternative A is selected, an intensive-level site recordation will be completed on this property prior to the site being demolished.



5.6 COORDINATION

The SHPO has been consulted on the determination of eligibility for properties within the project area of potential effect as well as the property effect on these properties. The SHPO consultation letters, other correspondence relating to coordination with other agencies, and the MOA are included Chapter 8–Comments and Coordination and Appendix A–Determination of Eligibility and Finding of Effect.